

or attached to the skin surface of the user. Preferably, the implantable patch **662** includes a photo-reactive substance or compound **76** that optically changes, fluoresces, or the like, or other suitable compounds that detect changing properties in the presence of a bodily fluid analyte, such as glucose or the like. The compounds can also be used to detect the level of an analyte that has been ingested, injected or placed inside the body, such as marker substances, or the like. For example, possible compounds, including but not limited to, produce a fluorescent change in the presence of a bodily fluid analyte are disclosed in U.S. Pat. No. 5,503,770 issued Apr. 2, 1996 to James et al. and entitled "Fluorescent Compound Suitable For Use In The Detection Of Saccharides"; U.S. Pat. No. 5,512,246 issued Apr. 30, 1996 to Russell et al. and entitled "Method and Means for Detecting Polyhydroxyl Compounds"; U.S. Provisional Application Serial No. 60/007,515 to Van Antwerp et al. and entitled "Minimally Invasive Chemically Amplified Optical Glucose Sensor"; and U.S. Pat. No. 6,011,984 to Van Antwerp et al. and entitled "Detection of Biological Molecules Using Chemical Amplification", all of which are herein incorporated by reference. Other compounds using Donor Acceptor fluorescent techniques may be used, such as disclosed in U.S. Pat. No. 5,628,310 issued May 13, 1997 to Rao et al. and entitled "Method and Apparatus to Perform Trans-cutaneous Analyte Monitoring"; U.S. Pat. No. 5,342,789 issued Aug. 30, 1994 to Chick et al. and entitled "Method and Device for Detecting and Quantifying Glucose in body Fluids"; and U.S. Pat. No. 5,246,867 issued Sep. 21, 1993 to Lakowicz et al. and entitled "Determination and Quantification of Saccharides by Luminescent Lifetimes and Energy Transfer", all of which are herein incorporated by reference. In still further embodiments, the medical device module may interface with the implantable patch using other communication methods, such as RF or the like.

[0121] FIG. 20 is a perspective view of a medical device module **680** that includes contacts **684** for interfacing with a medical device **682** in accordance with a thirteenth embodiment of the present invention. The medical device **682** can be any of the devices described herein. The medical device module **680** is coupled to the medical device **642** by contact **684** being coupled with corresponding contacts **686** on the medical device **642** to complete the connection between the medical device module **680** and medical device **682**. In particular embodiments, the contacts **684** and **686** establish a connection by simply lining up and putting the two device together. In other embodiments, the contacts **684** and **686** are physically coupled together to reduce the likelihood that the connection will be accidentally terminated. In other embodiments, the contacts **684** are used as electrodes to measure electrical characteristics of the user. For instance, the contacts may be placed against the skin of the user to measure pulse, heart rate, sweat effects, or the like. This embodiment may utilize a wired or wireless connection to transfer data received through the contacts **684** of the medical device monitor **680** to another medical device, or the like.

[0122] While the description above refers to particular embodiments of the present invention, it will be understood that many modifications may be made without departing from the spirit thereof. The accompanying claims are intended to cover such modifications as would fall within the true scope and spirit of the present invention.

[0123] The presently disclosed embodiments are therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims, rather than the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

What is claimed is:

1. A remote programmer for interfacing with at least one medical device, the remote programmer comprising:

at least one medical device module operatively coupled with the remote programmer and including at least one medical device interface to interface with the at least one medical device;

at least one processor to interface with the remote programmer and coupled to the at least one medical device interface to process data from the at least one medical device;

a housing adapted to contain the medical device module and the at least one processor;

at least one input/output port for communicating with the at least one medical device;

at least one display including at least one touch screen element to interface with at least one of the at least one processor and the at least one medical device;

at least one button to interface with at least one of the at least one processor and the at least one medical device;

at least one audio indication device coupled to the at least one processor to provide an audio indication; and

at least one portable power supply contained within the housing of the remote programmer to provide power to at least one of the at least one processor and the at least one medical device.

2. The remote programmer according to claim 1, wherein the at least one medical device module has a separate housing that is adapted to couple with the housing of the remote programmer.

3. The remote programmer according to claim 1, wherein the at least one medical device is a characteristic sensor that produces a signal indicative of a characteristic of a user, and further comprising:

a second characteristic determining device within the housing for receiving and testing an analyte to determine the quantity of the analyte independently of the at least one characteristic sensor; and

wherein the at least one medical device interface is a sensor receiver to receive sensor data signals produced from the at least one characteristic sensor, and

wherein the at least one processor is coupled to the sensor receiver and the second characteristic determining device to process the determined quantity of the analyte from the second characteristic determining device and the sensor data signals from the at least one characteristic sensor.

4. The remote programmer according to claim 3, wherein the at least one characteristic sensor is remotely located from the at least one medical device module, and wherein the